

WHAT IS CLAIMED IS:

1. An image forming apparatus comprising:

an image forming section for forming a pattern chart having a plurality of gradation patterns aligned thereon so as to suppress an uneven concentration appearing depending upon a scale of an electrostatic potential difference on the gradation patterns which are adjacent to each other in a sub-scanning direction of image formation,

an image reading section for reading image information from said pattern chart, and

an image processing section for adjusting an image forming condition based on the image information.

2. The image forming apparatus as defined in claim 1, wherein said image forming section forms said pattern chart such that a plurality of the gradation patterns have concentrations arranged in a staggered configuration.

3. The image forming apparatus as defined in claim 1, wherein said image forming section forms said pattern chart such that the gradation patterns adjacent to each other in the sub-scanning direction are brought into contact with each other.

4. The image forming apparatus as defined in claim 1,

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wherein said image forming section forms a dummy pattern which is adjacent to the gradation pattern at an end in the sub-scanning direction on said pattern chart and which is equal or close to the end gradation pattern in concentration.

5. The image forming apparatus as defined in claim 1, wherein a main scanning direction of image formation is perpendicular to the sub-scanning direction, and said image forming section forms said pattern chart such that a plurality of said gradation patterns with closest concentrations are aligned in the main scanning direction.

6. The image forming apparatus as defined in claim 5, wherein said image forming section forms said pattern chart such that said gradation patterns are aligned in increasing order of concentration from an end to the other end of said pattern chart.

7. The image forming apparatus as defined in claim 1, wherein said image processing section processes the image information read by said image reading section, with reference to a color of a base of said pattern chart, and said image processing section adjusts an image forming condition based on the processed image information.

9. An image forming apparatus, comprising:

an image reading section for reading second image information from said pattern chart through an image filter which is identical to the dither matrix in size, and

10. An image forming apparatus, comprising:

an image reading section for reading image information from said pattern chart, and

wherein said image forming section forms said pattern

11. An image forming apparatus, comprising:

an image forming section for forming a pattern chart based on first image information with multi-step gradation obtained by adding a dither value of a dither matrix,

an image reading section for reading image information from said pattern chart, and

an image processing section for adjusting an image forming condition based on the image information,

wherein said image processing section performs image processing to obtain a relationship between an input concentration and a dither value of said image forming section based on 1) a relationship between a) a target readout value used as an input concentration for reading performed in said image reading section and b) a readout reference value which is outputted from said image reading section and is inputted to said image forming section, and 2) a relationship between a dither value and an actual readout value obtained by reading said pattern chart in said image reading section.

12. An image forming apparatus, comprising:

15. The image forming apparatus as defined in claim 12, wherein said image forming means forms said pattern chart such that said gradation patterns are aligned in increasing order of concentration in a sub-scanning direction of said image forming means and a plurality of said gradation patterns with closest concentrations are aligned in a main scanning direction.

image forming means for forming an image on a recording member based on first image information,

image processing means which processes the second image information and adjusts an image forming condition when the image is a pattern chart having different gradation patterns aligned thereon,

wherein said image processing means performs image processing on the second image information and adjusts an image forming condition with reference to a base color of the recording member having said pattern chart formed

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when the image is a pattern chart having different gradation patterns aligned thereon,

wherein said image processing means performs image processing to obtain a relationship between an input concentration and the dither value of said image forming means based on 1) a relationship between a) a target readout value of a readout concentration of said image reading means and b) a readout reference value of said image reading means that corresponds to the target readout value, and 2) a relationship between the dither value and an actual readout value obtained by reading said pattern chart by said image reading means.

21. An image processing means comprising the steps of:

a step 'a' of reading a predetermined gradation pattern,

a step 'b' of obtaining a relationship between a) a target readout value used as an input value of image formation and b) a readout reference value which is outputted as a resulting value of the reading and is used as an input value of image formation,

a step 'c' of forming a reading pattern chart composed of a plurality of gradation patterns corresponding to a plurality of dither values,

a step 'd' of obtaining a relationship between an

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actual readout value obtained by reading the reading pattern chart and the corresponding dither value, and

a step 'e' of obtaining a relationship between an input value and a dither value during image formation based on the relationships obtained in the steps 'b' and 'd'.

22. The image processing method as defined in claim 21, further comprising the steps of:

a step 'f' of forming a visual pattern chart based on a relationship between an input value and a dither value, said relationship being obtained in step 'e',

a step 'g' of manually adjusting the relationship by seeing said visual pattern chart, and

a step 'h' of setting another readout reference value based on the relationship adjusted in the step 'g'.

23. The image processing method as defined in claim 21, further comprising a step 'i' of selecting one of a readout reference value of said step 'b' and a readout reference value additionally set in said step 'h'.

24. The image processing method as defined in claim 22, wherein said visual pattern chart is formed with fewer gradation steps than said reading pattern chart.

said method comprising the steps of:

a second step of directly reading a reading pattern chart by image reading means before inputting and storing a relationship between an input value and the dither value, and

a third step of obtaining a relationship between an input concentration and the dither value of image forming means based on a) a readout reference value corresponding to a target value of an input concentration of said image reading means and b) the readout value stored in said second step.

26. The image processing method as defined in claim 25,
further comprising:

a fourth step of forming a visual pattern chart on a recording member based on a relationship determined in the third step between an input concentration and a dither value,

wherein said first image is larger than said second image in number of gradation steps.